

In the claims:

41. (currently amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a PSCT liquid crystal material including a non-reactive blend of chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:



42. (previously added) The electro-optical glazing structure of claim 41, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

43. (previously added) The electro-optical glazing structure of claim 42, in which the modes of operation avoid the use of energy absorbing mechanisms.

44. (previously added) The electro-optical glazing structure of claim 42 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

45. (previously added) The electro-optical glazing structure of claim 41, wherein the optically transparent substrates comprise float-glass.

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46. (currently amended) An electro-optical glazing structure comprising:
an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,
wherein the liquid crystal material comprises a non-reactive blend of a chiral liquid crystal and ethylene glycol dimethacrylate.

47. (previously added) The electro-optical glazing structure of claim 46, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

48. (previously added) The electro-optical glazing structure of claim 47, in which the modes of operation avoid the use of energy absorbing mechanisms.

49. (previously added) The electro-optical glazing structure of claim 47 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

50. (previously added) The electro-optical glazing structure of claim 46, wherein the optically transparent substrates comprise float-glass.

51. (currently amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a non-reactive blend of

a chiral liquid crystal and

a monomer selected from the group consisting of ethylene glycol dimethacrylate, urethane acrylates having a viscosity of about 300 to about 400 centipoise, and epoxies having a viscosity of about 1400 to about 1800 centipoise, and combinations comprising at least one of the foregoing monomers.

52. (previously added) The electro-optical glazing structure of claim 52, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

53. (previously added) The electro-optical glazing structure of claim 52, in which the modes of operation avoid the use of energy absorbing mechanisms.

54. (previously added) The electro-optical glazing structure of claim 52 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

55. (previously added) The electro-optical glazing structure of claim 51, wherein the optically transparent substrates comprise float-glass.

56. (previously amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a PSCT liquid crystal material including a chiral liquid crystal, a monomer and a dichroic dye.

57. (previously added) The electro-optical glazing structure of claim 56, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

58. (previously added) The electro-optical glazing structure of claim 57, in which the modes of operation avoid the use of energy absorbing mechanisms.

59. (previously added) The electro-optical glazing structure of claim 57 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

60. (previously added) The electro-optical glazing structure of claim 56, wherein the optically transparent substrates comprise float-glass.

61. (previously amended) The electro-optical glazing structure of claim 56, wherein said dichroic dye is an anthraquinone dye.

62. (currently amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises

a non-reactive blend of a chiral liquid crystal, and a monomer, and a surfactant.

63. (previously added) The electro-optical glazing structure of claim 62, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

64. (previously added) The electro-optical glazing structure of claim 63, in which the modes of operation avoid the use of energy absorbing mechanisms.

65. (previously added) The electro-optical glazing structure of claim 63 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

66. (previously added) The electro-optical glazing structure of claim 62, wherein the optically transparent substrates comprise float-glass.

67. (previously added) The electro-optical glazing structure of claim 62, wherein said surfactant comprises Poly (Dimethylsiloxane).

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83. (currently amended) A liquid crystal material for an electro-optical glazing structure comprising a PSCT liquid crystal material including a non-reactive blend of a chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:



84. (currently amended) A liquid crystal material for an electro-optical glazing structure comprising a non-reactive blend of a chiral liquid crystal and ethylene glycol dimethacrylate.

85. (currently amended) A liquid crystal material for an electro-optical glazing structure comprising a non-reactive blend of

a chiral liquid crystal and

a monomer selected from the group consisting of ethylene Glycol glycol

Dimethacrylate dimethacrylate(EGD), urethane acrylates having a viscosity of about 300 to about 400 centipoise, and epoxies having a viscosity of about 1400 to about 1800 centipoise, and combinations comprising at least one of the foregoing monomers.

86. (previously added) A liquid crystal material for an electro-optical glazing structure comprising
a PSCT liquid crystal material and a dichroic dye.

87. (previously amended) The liquid crystal material of claim 86, wherein said dichroic dye is an anthraquinone dye.

88. (currently amended) A liquid crystal material for an electro-optical glazing structure comprising

a non-reactive blend of a chiral liquid crystal, and a monomer, and
a surfactant.

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89. (previously added) The liquid crystal material of claim 88, wherein said surfactant comprises Poly (Dimethylsiloxane).
